

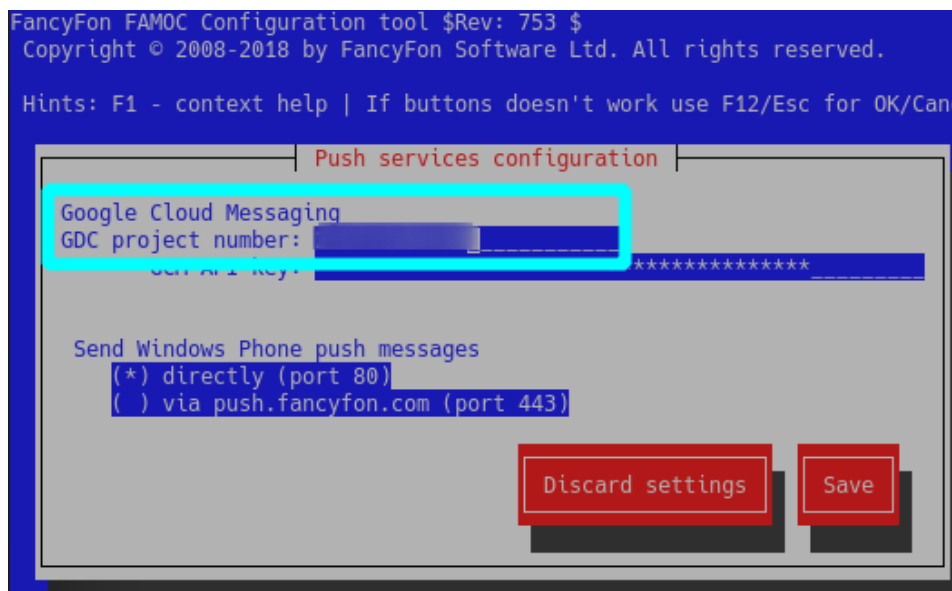


Firestore Cloud Messaging (FCM) Integration

Date: 11/04/2023

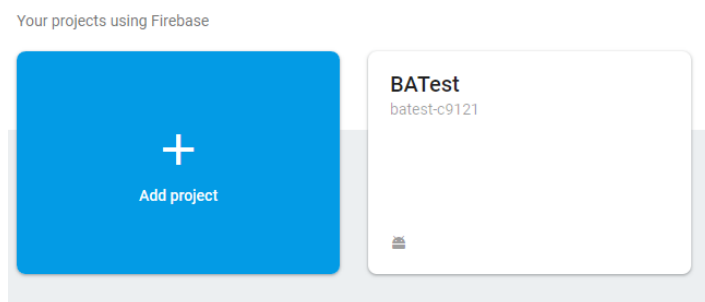



Firebase Cloud Messaging (FCM) integration is necessary to send push messages to Android devices. To do it you have to implement FCM server key and json in Essentials MDM Configuration tool. To complete the process, you will also need the existing **Google Cloud Messaging GDC project number** which can be found in the current settings of the “**famoc-config**” tool under **System configuration** > **Other push services**.



NOTE: Before you start FCM configuration for Essentials MDM server, you need to add outgoing rule from Essentials MDM server to Internet for TCP requests <https://fcm.googleapis.com/fcm/send> for port 443.

First, login to Firebase console: <https://console.firebase.google.com/> with the same credentials as used for GCM configuration and add new project.



Choose existing GCM project from dropdown menu. If you want to edit Analytics location click  button (You can read more about project location settings on FCM support page: <https://firebase.google.com/support/guides/locations>).

Firebase Cloud Messaging (FCM) Integration

*NOTE: It is not required to use default settings for sharing Google Analytics data. If you unmark this checkbox, **Continue** button will replace **Create project** button. If you click on it, additional step allowing you to customize data sharing will appear.*

To finish the process click **Add Firebase**.

The top screenshot shows a dialog titled "Customize data sharing for your new project". It contains the following options, all of which are unchecked:

- ☐ **Share your Analytics data with all Firebase features**
Share Analytics data with all Firebase features, including Crashlytics, Predictions, A/B Testing, Remote Config, Cloud Messaging and In-App Messaging. If you disable this option, Firebase will not be able to use your Analytics data for these features. [Learn more](#)
- ☐ **Google Products and Services**
Share Google Analytics data with Google to help improve Google's products and services. If you disable this option, data can still flow to other Google products explicitly linked to your Google Analytics property.
☐ I accept the [controller-controller terms](#). [Learn more](#)
- ☐ **Benchmarking**
Contribute anonymous data to an aggregate data set to enable features like benchmarking and publications that can help you understand data trends. All identifiable information about your website is removed and combined with other anonymous data before it is shared with others.
- ☐ **Technical support**
Let Google technical support representatives access your Google Analytics data.

A "Create project" button is at the bottom right.

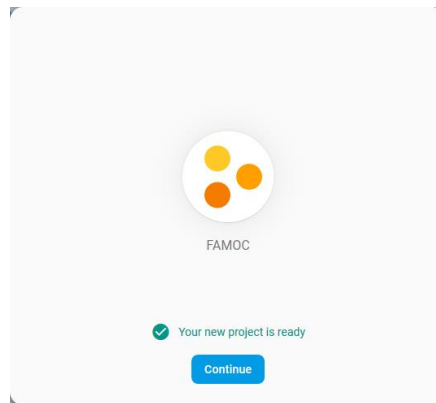
The bottom screenshot shows a dialog titled "Add a project". It contains the following information:

- Project name:** My Project 29015
- Project ID:** genuine-citron-235714
- Locations:** United States (Analytics), nam5 (us-central) (Cloud Firestore)
- ☒ **Use the default settings for sharing Google Analytics for Firebase data**
 - ☒ Share your Analytics data with all Firebase features
 - ☒ Share your Analytics data with Google to improve Google Products and Services
 - ☒ Share your Analytics data with Google to enable technical support
 - ☒ Share your Analytics data with Google to enable Benchmarking
 - ☒ Share your Analytics data with Google Account Specialists
- ☒ I accept the [controller-controller terms](#). This is required when sharing Analytics data to improve Google Products and Services. [Learn more](#)

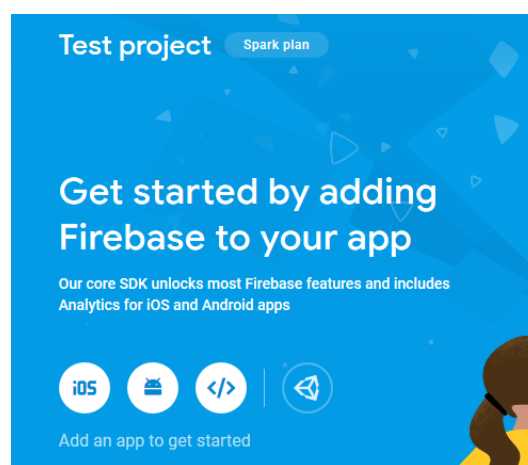
Buttons for "Cancel" and "Add Firebase" are at the bottom right.

After a while you will see confirmation message. Click **Continue**.

Firebase Cloud Messaging (FCM) Integration



To register new app click the Android icon .

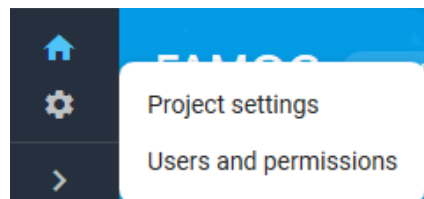


Enter the name of the new app. By default it is **com.famoc.baseAgent**. Other steps are optional so you can click **Register app** button and click the X button in the top left corner or **Next, Next, Skip** to close the window.

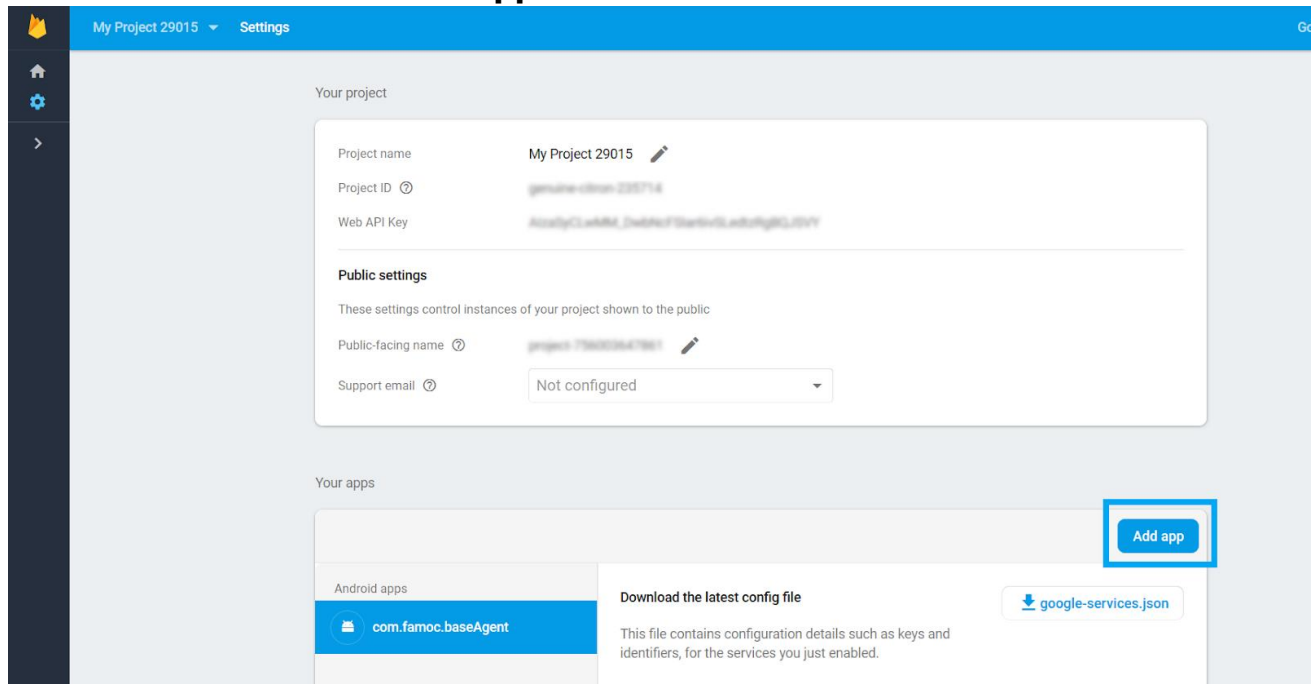
A screenshot of the 'Add Firebase to your Android app' dialog box. The title is 'Add Firebase to your Android app'. It has a close button (X) in the top left corner. The first step is '1 Register app'. It has three input fields: 'Android package name' with the value 'com.famoc.baseAgent', 'App nickname (optional)' with the value 'Freemium Android App', and 'Debug signing certificate SHA-1 (optional)' with a placeholder value '00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00'. Below the input fields is a blue button labeled 'Register app'. At the bottom, there are four steps in a list: '2 Download config file', '3 Add Firebase SDK', and '4 Run your app to verify installation'.

Firebase Cloud Messaging (FCM) Integration

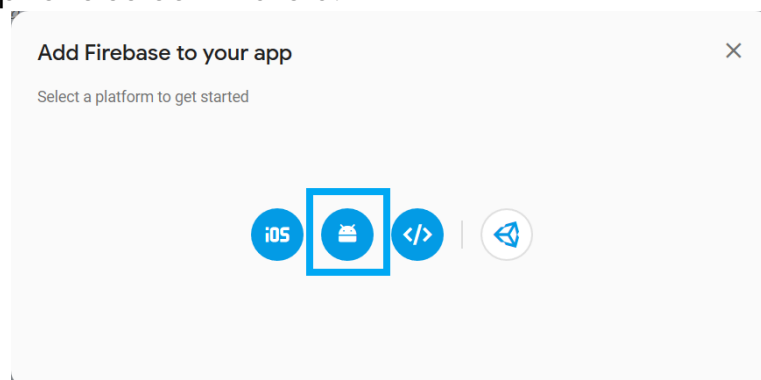
Enter the **Project settings** by clicking clockwork icon.



In the next window click **Add app**.



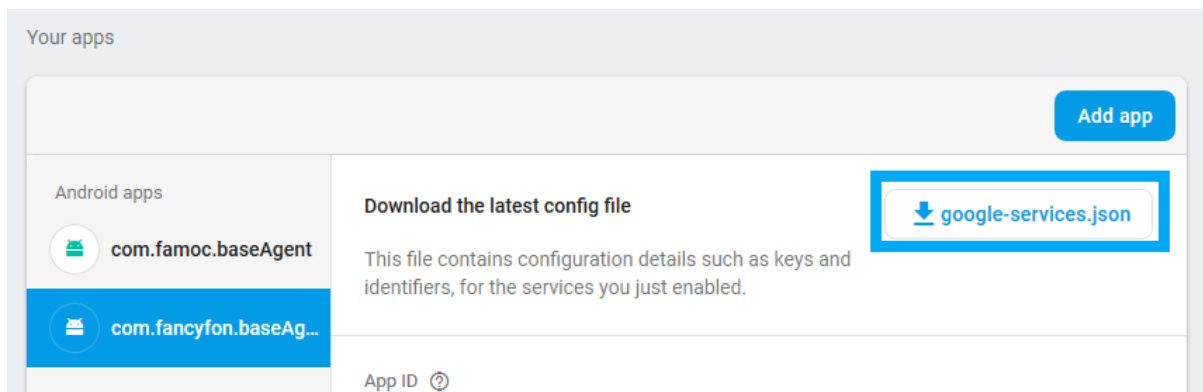
From given options select Android.



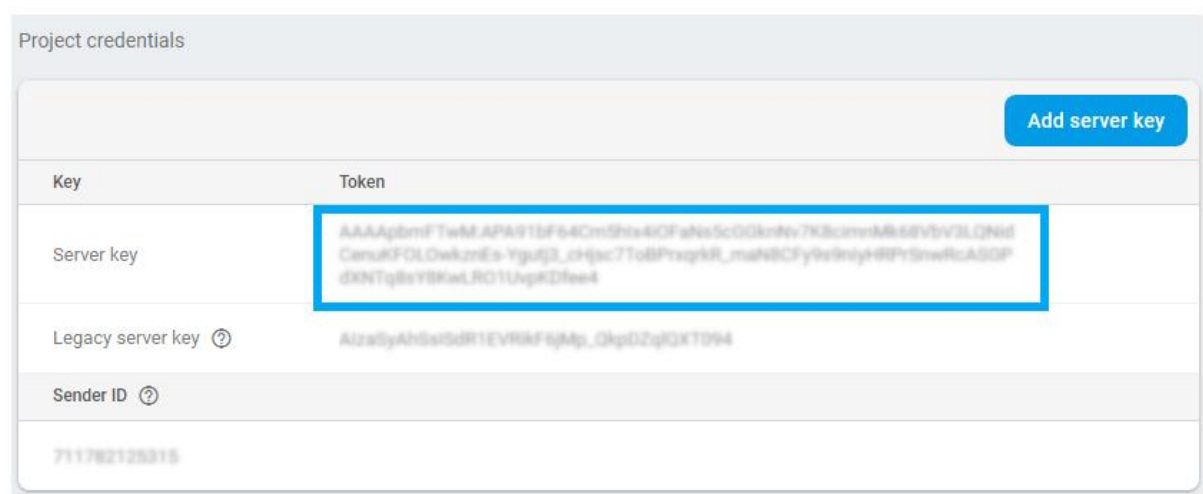
Repeat all the steps but this time set the **Android package** name as **com.fancyfon.baseAgent**.

Click again clockwork icon nad go to **Project settings** > **General** tab and download google-services.json file.

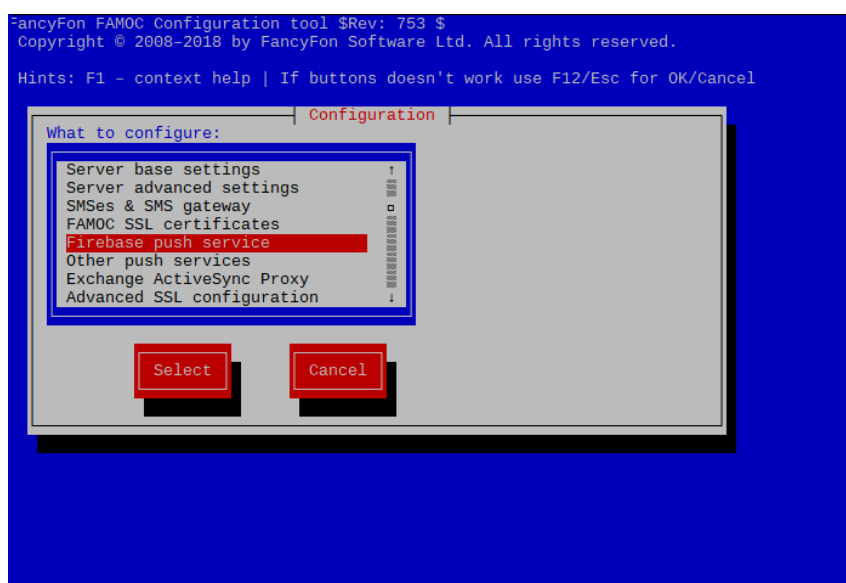
Firebase Cloud Messaging (FCM) Integration



Then go to **Cloud Messaging** tab and copy Server key Token.



Now, run the Essentials MDM Configuration Tool and go to **Configuration > Firebase push service** menu.



*NOTE: If you see more agents than those added in previous steps, you have to add them in Google web console and download **google-services.json** file again.*

Paste Server key you previously copied from **Cloud Messaging** settings on firebase.google.com in **FCM Server key** field. Check if **Google Cloud Messaging GDC project number** we mentioned before is identical as **FCMSender ID**.

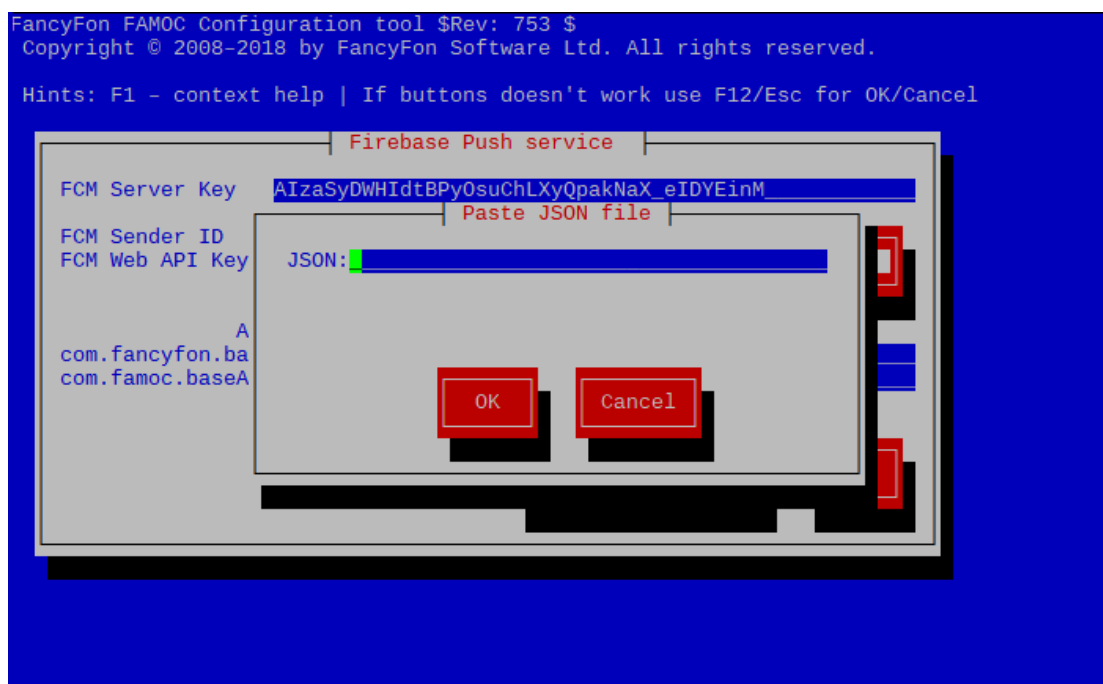
Open previously downloaded .json file in Notepad and copy the whole content. Paste copied content in **JSON:_____** field, which will be shown when you select **Paste FCM JSON file** button and click **OK**.

NOTE: Sometimes a problem occurs when copying JSON file content on macOS and Linux machines. To avoid it you have to remove the end of line symbol from file using command:

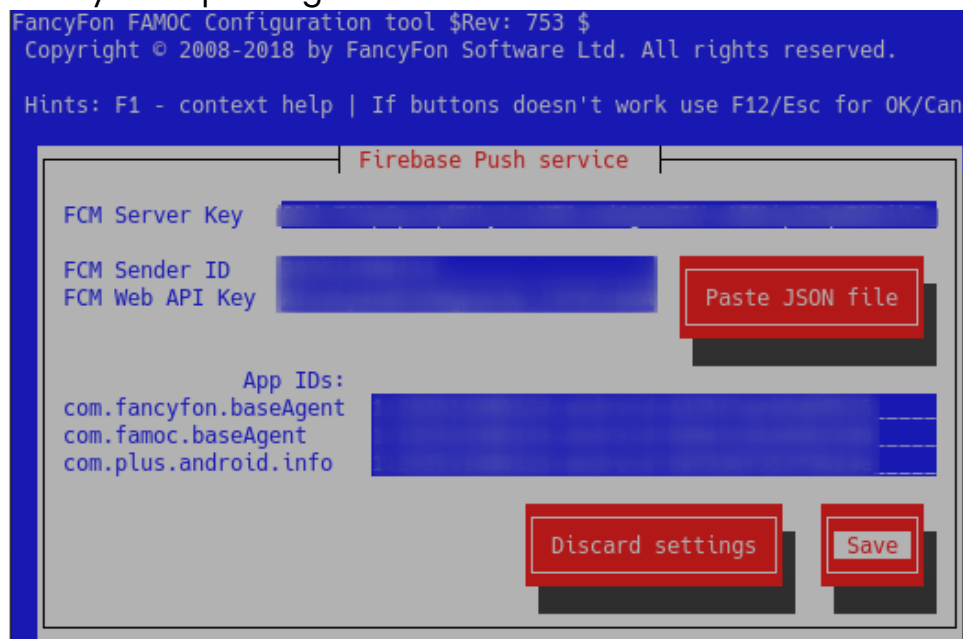
```
cat google-services.json | tr -d '\n'
```

or

```
tr -d '\n' < google-services.json > Downloads/no-n.json command
```

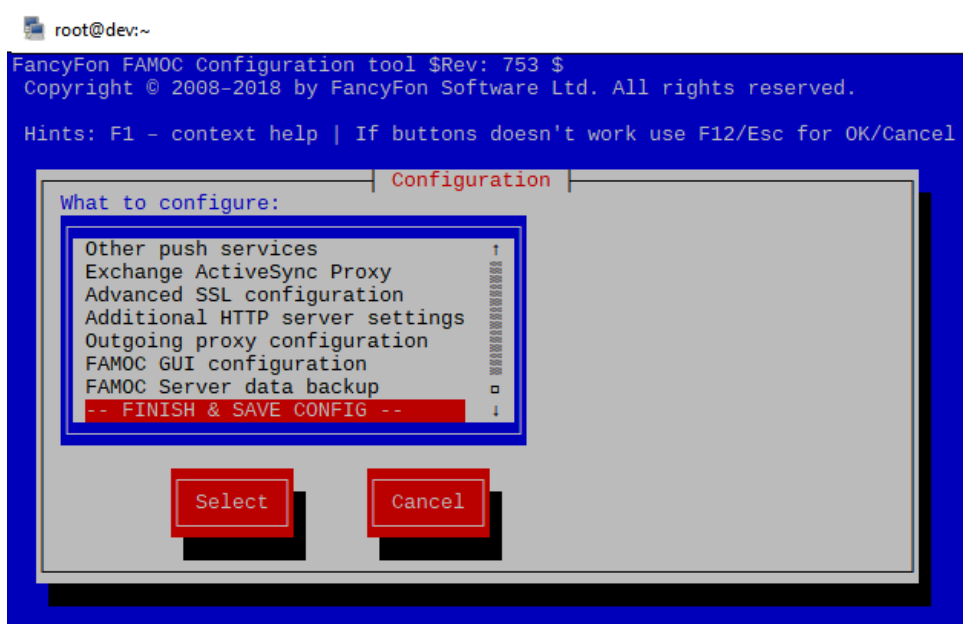


If you have correctly performed the above operations, all fields should be completed as shown below (the values have been blurred for security reasons). The last agent (com.plus.android.info) appeared as an example of subsequent agents that may appear on the list depending on the functionalities implemented on the server. In the standard version, the first two will appear. **FCM Web API Key** and **App IDs** will be completed automatically after pasting the correct **.JSON** file.



To finish click **Save**.

Go back to FAMOC Configuration tool Main Menu and select **FINISH & SAVE CONFIG**.



To verify if the integration have been performed correctly add:

```
topic: Android push  
debug: android.log
```

in `/var/www/apps/logging.local.conf`

Then enter the command:

```
killall -HUP fflogd
```

Send push to an Android device (e.g. initiate Usage Monitor from FAMOC web console) and execute:

```
cat /var/log/famoc/android.log | grep -i fcm
```

This command will display log with FCM message:

```
Signal sent to Android Push Notification service over FCM
```

This message indicates that integration have been performed correctly. In case of failure, messages may be displayed:

```
We couldn't send FCM message as Registration Device Identifier is INVALID or  
DOES NOT EXIST
```

or:

```
FCM message could not be sent: (ERROR DESC)
```

This is most commonly due to different GCM ID and FCM ID.